

**To:** Wall, Dan[wall.dan@epa.gov]  
**From:** Way, Steven  
**Sent:** Mon 3/10/2014 6:17:17 PM  
**Subject:** FW: Animas OTEC model timing

Dan,

Here is some information from Rob regarding the analysis that we spoke of.

Steve

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-----Original Message-----

From: Rob Runkel [mailto:runkel@usgs.gov]  
Sent: Monday, March 10, 2014 10:34 AM  
To: Way, Steven  
Cc: Lewis, Brent  
Subject: RE: Animas OTEC model timing

1) I took the 10/2/2012 data from the Cement, Upper Animas, and Mineral gages and calculated the dissolved zinc load. The results are consistent w/ my more detailed loading analysis.  
In this case Cement Creek accounts for 70% of the Zn load contributed by the three drainages.

Q	Zn(ug/L)	g/s	%
cc481426401.0570			
a68273960.3020			
m34301730.1510			

2) The above supports the focus on Cement Creek, and somewhat cuts down the argument about the Mayflower tailings. But one thing should be looked into -- are the flow and loading contributions from Oct 2012 representative of other low flow periods? (in Oct 2012, we saw ~20% of the flow from Cement, ~40% of flow from Upper Animas, and ~40% flow from Mineral -- is this typical??).

3) the simple calculations in 1 above should be repeated for all the times in which the 3 gages have been sampled at approximately the same time. This analysis could be used to answer the question posed in #2 above; it should also show trends and changes in the system (e.g. a reduction in the % contribution of Mineral Creek following bulkhead placement at the Koehler tunnel). This analysis would also provide a check on some of the results presented by Peter Butler.